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PHYTOSANITARY LABORATORY, INSPECTOR, AND BORDER STATION EQUIPMENT SPECIFICATION DEVELOPMENT

CONDUCTED JUNE – AUGUST 2011

**AGRICULTURAL COMPETITIVENESS AND ENTERPRISE DEVELOPMENT
PROJECT (ACED)**

OCTOBER 2011

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BRIEF INTRODUCTION

SPS compliance is a critical component of the HVA strategy. Trading partners expect Moldovan HVA products to be free of weeds, pests, and diseases. They expect products to be free of contaminants, including pesticides residues, pathogens, mycotoxins, and heavy metals that could impact the importing country's human and animal health. Failure to comply can and has led to import bans that have a devastating impact on the HVA industry. For example on May 16th, 2005, the Russian Federation banned the import of Moldovan fruit and vegetables due to high levels of pesticide residues. This ban resulted in a 50% drop in apple exports over the two year period, from a high of 136,000 mt to 79,000 mt in 2007 when the ban was lifted, and resulted in an approximately 50 million USD loss in revenue.

A key component of the ACED effort is rebuilding basic SPS capacity (inspection, certification and diagnostics) to ensure that the Government of Moldova's SPS systems meets the basic requirements as outlined in ISPM 7, 20 and 23. The ability to test materials for chemicals, pathogens, pests, weeds and disease is a key component of a phytosanitary control system. The 2009 assessment noted that the phytosanitary group did not have the equipment, process or procedures to perform the required testing and recommended significant investment by the Government of Moldova and United States Government to improve the situation in support of exports of HVA products. It was also noted in 2009 that there were laboratories that could support the phytosanitary group by providing testing for chemicals, especially pesticide residues, and pathogens within the government and therefore instead of replicating this capacity the investments should be focused on those areas that are unique to phytosanitary control.

In March 2011 ACED conducted a rapid assessment of Moldova's SPS capacity, focusing on inspection, certification and laboratory testing, to identify what had changed since 2009. This assessment found that the government was well along in their refurbishment of the phytosanitary laboratory with an estimated completion date of 3Q2011. Therefore the development of the equipment specifications was moved from year-2 to year-1. Further in 2009 it was recongized that in order to have a functional inspectorate and border control program, the inspectors needed basic equipment. The equipment for inspectors was included within the scope of this activity as there are economic advantages for the combined purchasing of the equipment and materials.

PROCESS FOR EQUIPMENT SPECIFICATION DEVELOPMENT

A core philosophy of the ACED project is to involve, engage, and gain buy-in for the work with our local counter parts in the phytosanitary laboratory and inspection service. Therefore this work had three phases.

In Phase I the equipment list prepared in 2009 was harmonized with the equipment request provided by phytosanitary and inspector service. This entailed a line-by-line comparison of the two requests and the creation of a harmonized list of materials. During this process it was noted that some equipment and activities requested by the phytosanitary laboratory were not included and/or excluded in the 2009 report. In 2009 the request to support regional laboratories and mobile testing services were considered. In both cases due to the size of the country, it was recommended that these areas not be a part of the MCA investment. The recommendation not to invest in regional and mobile laboratories was due to the high initial cost (in excess of 20 million USD), the size of the country where it takes no more than 8 hours to reach any point, as well as the high cost of the operational budget required to maintain and keep these laboratories operational. This issue was evaluated again as a part of this activity and again we recommend that regional laboratories are areas that either the government or other donors may wish to invest but that this not be undertaken as a part of this project. Once the harmonized list was prepared, the consultant developed a detailed draft set of specifications for each of the over 150 items that were outlined in the report.

In Phase II, the draft equipment list and specifications were reviewed item-by-item with the phytosanitary service and inspection service representatives. In addition the phytosanitary service and inspection service prepared additional requests and specifications based on further research and discussions with their counterparts in Romania and Russia. Translations of these requests and specification were provided to the consultant.

In Phase III a final draft database of equipment and materials was prepared. This database of over 230 items lists the materials, the specifications, possible suppliers, as well as estimated retail list prices. It is organized by function and includes the inspectors, border inspection stations and laboratory. In addition we have included 2 detailed lists (one for reagents and one for glassware) under a separate tab in the database. Prior to ordering the equipment we recommend that this database be reviewed with the phytosanitary laboratory and inspectorate to ensure that all of the items and materials are included and that the ones that have been identified will meet their needs.

Based on the budget estimates this program will be within the budget that was estimated in 2009.

SPECIFIC NOTES

1. All prices quoted in the database are for budget purposes only and reflect US retail list price. As was noted in 2009, the actual prices should be lower due to the size of the order and that the savings should offset the cost of shipping and handling.
2. We recommend that the Government of Moldova, Ministry of Agriculture and Food Industry (MAFI) is responsible for customs clearance, VAT and other taxes associated with the importation of these times.
3. There are items within the database that for technical reasons substitution is not recommended and that the specific equipment indicated be used for bidding purposes. In other cases, as indicated, alternatives maybe proposed by the bidders as long as they are better than or equal to the material that is specified.
4. Some of the materials should be procured locally such as UV lights and fixtures, inspection tables, glassware, reagents, personal protective equipment (PPE) as well as many of the items in the kits for the inspectors and border inspection stations. These have been indicated in the database.
5. There are over 231 stock keeping units (SKUs) indicated within the database. Therefore the scope of the RFP will be quite large and a review of the responses will take time.
6. All electrical equipment must have EU plugs, operate at 220 – 240 volt, and where possible carry CE or equivalent certification mark.
7. All instruction manuals and work instructions should be provided by the vendors either in Romanian or Russian along with English where ever possible. If this is not possible or there is additional cost for this, the bidders should indicate this on their proposals.
8. In some cases items are ordered in bulk, for example specimen bottles for inspectors. It is intended that MAFI representatives with support from ACED will break down the bulk packaging and form the required kit sizes for the inspectors and border inspection locations.
9. All volumetric glassware must be certified and/or class A and be provided with certificates
10. The database lists several potential vendors for the equipment. This list includes VWR, Fisher Scientific, Thomas Scientific, and others. It is important to note that these three companies are value added resellers and can provide the range of equipment that is required. The alternative is to purchase where possible from the companies directly but with this many SKUs this would be impractical. Further because of their purchasing power VARs in general have lower prices versus individual direct purchases.
11. Both for the ease of ordering, as well as future services such as installation, maintenance, calibration, and purchase of parts, it is recommended that equipment be purchased from a few well-known manufacturers. Instrument manufacturers should have representation in the region.
12. It is important to note that the quantities specified are based on there being 300 field inspectors and 20 border inspection locations including actual border stations, internal inspection points at Chisnau and Belts, airport, port, and rail inspection stations.

PHYTOSANITARY INSPECTOR KITS

Item	Specification	Quantity	Estimated Item Cost	Estimated Total Cost	Possible Vendor
Cooler for sample transport	8x5.875x11.5 Styrofoam Cooler	300	\$7.13	\$2,139.00	http://www.mrboxonline.com/shopping_cart.php or buy locally
Field/Utility Box	Made of heavy-duty plastic, must keep contents dry and protected. Convenient compartment on top of lid provides convenient storage for smaller items. Deep open interior has a lift-out tray for accommodating larger parts and equipment. Dimensions: 13" x 6-3/4" x 10".	300	\$15.25	\$4,575.00	www.forestry-suppliers.com or buy locally
Illuminated magnifier	Fisher Scientific* Magnifiers, Medium, 3X and 10X magnifiers, catalogue 12-071-6B (or equivalent)	300	\$26.54	\$7,962.00	http://www.fishersci.com
Flashlight	Heavy Duty Industrial Flashlight, crush-resistant reinforced case, and unbreakable lens. Light output: 10,000 beam candlepower. Power: 2 D cell batteries.	300	\$6.75	\$2,025.00	www.forestry-suppliers.com or buy locally
Batteries for flashlight	D-cell batteries, such as Duracell Coppertop D Batteries, Alkaline batteries, 1.5 V, 8 per package. To fit in flashlights.	150	\$12.89	\$1933.50	www.costco.com or buy locally
Pen knife	3 1/4 inches closed with a single Stainless Steel blade	300	\$6.50	\$1,950.00	http://www.bandkenterprises.com/servlet/the-1181/WINCHESTER-Clip-Stainless-Folder/Detail or buy locally

Camel hair brush	Camel's Hair Brush Long Handle,S30423, C&A Scientific, No.:BR661EDU EMD, Pack of 12 (or equivalent) Hair has a slightly pointed tip and a full body tapering toward the handle. Tip has a 0.75 in. max. diameter and is 1 in. long. Overall length 9 in. Used to collect samples.	25	\$90.00	\$2,250.00	http://www.fishersci.com or buy locally
Marking tape	buy local -- masking tape or flag tape white 1" x 100 ft	300	\$5.50	\$1,650.00	http://www.seton.com/biodegradable-flagging-tape-sp48.html or buy locally
Specimen vials	Wheaton* 20mL PET Liquid Scintillation Vials, PP Cap, Metal Foil Liner, Screw Cap Size, 20mL 27 x 61mm 03-341-73A Wheaton Science Products No.:986731, Case of 500 (or equivalent)	6	\$190.22	\$1,141.32	http://www.fishersci.com or buy locally
Marking pens	Black permanent marking pen that writes on vinyl, polyester, plastic, aluminum, metal, brass, fiber, glass and more Fine point for precision writing	600	\$2.90	\$1,740.00	http://www.seton.com/permanent-marking-pens-m6935.html or buy locally
Labels	Fisherbrand* Self-Adhesive Labels,White w/red border; 3L x 1.75 in. W (76 x 44mm), cat number11-850A, Pack of 360, (or equivalent)	100	\$31.56	\$3,156.00	http://www.fishersci.com or buy locally
Tags	Pre-Strung Heavy-Duty Manila Shipping Tags, #5, 4-3/4" x 2-3/8", Tags are loop strung with 12", unpolished cotton string Reinforced, tear resistant eyelet, Box of 1000 (or equivalent)	30	\$54.99	\$1,649.70	can be purchased locally, or at http://www.staples.com/Staples-Pre-Strung-Heavy-Duty-Manila-Shipping-Tags-5-4-3-4/product_496197 or buy locally
Watch glasses (20 per person)	Watch Glass Form Covers, Diameter: 2-1/2 in, catalogue 02-610B American Educational Products, No.:7-02610B, Pack of 24, Need 6000 total, 20 per person (or equivalent)	250	\$57.34	\$14,335.00	http://www.fishersci.com

Alcohol	Ethanol, >95%, 1 L	300	\$2.49	\$747.00	purchase locally
Petroleum Ether	Boiling Point 100° to 140°C (at 760mmHg) Density:0.725g/mL Flash Point:-20°C Melting Point:-30°C n 1.403-1.408, 10 l	30	\$ 88.46	\$2653.8	http://www.fishersci.com/ecommerce/productDetail?catalogId=29101&productId=9113050&distype=0&highlightProductsItemsFlag=Y&fromSearch=1&storeId=10652&langId=-1 or buy locally
Entomology Dissection Equipment, 1 scalpel, 10 scalpel blades, 2 micro-dissection forceps (straight) and 2 micro-dissection forceps curved, 2 teasing needles straight, 2 teasing needles curved, and 1 scissors.	Designed for insect studies. Kit contains one 4.5" micro dissection forceps, one 4.5" curved micro dissection forceps, one 4.5" long point entomology forceps, one 4.25" short point entomology forceps, two straight handle plastic teasing needles, two curved plastic handle teasing needles, one pair 4.5" Iris scissors, one #3 Scalpel, ten #10 Scalpel blades, a double fold vinyl case and a 6" plastic ruler. Cat # 53873 (or equivalent)	300	\$15.90	\$4,770.00	http://www.forestry-suppliers.com
Coverall	Long-sleeve workmen's 1 piece coveralls, wrinkle resistant poly/cotton or cotton twill. Heavy duty/durable. Triple needle construction and bar-tack stress points. Non-Stick stain protection. Front closure with snaps and heavy duty hidden 2-way zipper	300	\$34.99	\$10,497.00	Buy locally or www.Sears.com
Total Cost:				\$65,174.32	

BORDER INSPECTION STATIONS MATERIALS AND EQUIPMENT

Item	Specification	Quantity	Estimated Cost per Item	Estimated Total Cost	Possible Vendor
Planachromatic Microscope with Trinocular Head	<p>Advanced Compound Microscopes with 10x/20mm widefield eyepiece, 30° inclined and 360° rotating head, five-position nosepiece, 6V, 20W Koehler halogen illumination, 1.25 N.A. (Numerical Aperture) Abbe condenser with iris diaphragm, and large mechanical stage.</p> <p>Microscopes are supplied with 10X Eyepieces(2), 4X Plan achromatic Objective, 10X Plan achromatic , 40X Plan achromatic Objective, 100X Plan achromatic Objective; and filters 82026-452 and 82026-492</p> <p>VWR Catalog # 97010-026 or equivalent</p> <p>Comes with dust cover. Must be able to operate at 220 to 240 V with European plug.</p>	20	\$1,690.38	\$33,807.60	www.vwrsp.com
Digital Camera for Microscope	<p>Microscope Cameras Digital still/video for use with any trinocular VistaVision microscope, features a Sony 1/3in super HAD CCD sensor & PAL or NTSC shutters. Maximum resolution through the USB port is 768x576 (PAL) and 640x480 (NTSC). Cameras are</p>	20	\$899.62	\$17,992.40	www.vwrsp.com

	supplied with auto and color white balancing, microscope adapter, a USB cable, a driver CD, and a 12.7mm (1/2") sensor. VWR Catalog # 82030-630				
Microscope slides	Single-end frosted, manufactured of soda-lime glass in accordance with ISO 8037/1 standards, Case of 20 packs of 72	2	\$383.85	\$767.70	www.vwrsp.com
Cover slips	Unbreakable Cover Slips, such as FisherBrand Cat. # 12-547, Case of 1000	2	\$76.37	\$152.74	http://www.fishersci.com
Refrigerator with freezer	General Purpose Refrigerator/Freezer, For example: GE 16.5 cu. ft. Top Freezer/Refrigerator	20	\$498.00	\$9,960.00	Buy locally or at www.homedepot.com
Digital Floor Scale	35kg capacity floor scale with digital read-out, large stainless steel platform, non-slip adjustable leveling feet, such as CPWplus L Floor Scale, 75 lb/35kg x 0.2 lb/10g, 220V	20	\$525.00	\$10,500.00	http://www.thomassci.com/Instruments/Scales/_/CPWplus-L-Floor-Scales/?q=floor%2bscale
Illuminated Magnifier	Fisher Scientific* Magnifiers, Medium, 3X and 10X magnifiers, catalogue 12-071-6B	40	\$26.54	\$1,061.60	http://www.fishersci.com

Entomology Dissection Equipment , 1 scalpel, 10 scalpel blades, 2 micro-dissection forceps (straight) and 2 micro-dissection forceps curved, 2 teasing needles straight, 2 teasing needles curved, and 1 scissors.	Designed for insect studies. Kit contains one 4.5" micro dissection forceps, one 4.5" curved micro dissection forceps, one 4.5" long point entomology forceps, one 4.25" short point entomology forceps, two straight handle plastic teasing needles, two curved plastic handle teasing needles, one pair 4.5" Iris scissors, one #3 Scalpel, ten #10 Scalpel blades, a double fold vinyl case and a 6" plastic ruler. Cat # 53873 (or equivalent)	40	\$15.90	\$636.00	http://www.forestry-suppliers.com
Flashlight	Heavy Duty Industrial Flashlight, crush-resistant reinforced case, and unbreakable lens	40	\$6.75	\$270.00	www.forestry-suppliers.com or buy locally
Batteries for flashlight	D-cell batteries, such as Duracell Coppertop D Batteries, Alkaline batteries, 1.5 V, 8 per package. To fit in flashlights.	20	\$12.89	\$257.80	www.costco.com or buy locally
Inspection table	Purchase locally	20	\$200.00	\$4,000.00	Build locally
Grain sampler	Designed to take samples at varying depths from large containers of grain and dry goods.	20	\$100.00	\$2,000.00	Build locally
Crow bar	18 in. I-Beam Construction Pry Bar	20	\$19.97	\$399.40	http://www.homedepot.com or buy locally
Ladder	A-frame ladder, fiberglass, 300 lb load capacity (or better), 2.5 to 3 m tall, For example: Werner 8 ft. Fiberglass Step Ladder 300 Lbs. Load Capacity (Type IA Duty Rating)	20	\$148.00	\$2,960.00	Buy locally or at www.homedepot.com

Specimen vials with caps	Wheaton* 20mL PET Liquid Scintillation Vials, PP Cap, Metal Foil Liner, 03-341-73A, Wheaton Science Products No.:986731, Case of 500 (or equivalent)	8	190.22	\$1521.76	http://www.fishersci.com or buy locally
alcohol	Ethanol, >95%, 1 L	20	\$2.49	\$49.80	purchase locally, http://www.drugstore.com/rite-aid-isopropyl-rubbing-alcohol-70/qxp73865
Petroleum Ether	Boiling Point 100° to 140°C (at 760mmHg) Density:0.725g/mL Flash Point:-20°C Melting Point:-30°C n 1.403-1.408, 10 l	4	\$ 88.46	\$353.84	http://www.fishersci.com/ecommerce/ser/vlet/itemdetail?catalogId=29101&productId=9113050&distype=0&highlightProductsItemsFlag=Y&fromSearch=1&storeId=10652&langId=-1 or buy locally
Watch glasses	Watch Glass Form Covers, Diameter: 2-1/2 in, catalogue 02-610B (or equivalent) American Educational Products No.:7-02610B	20/site	Pack of 24 for \$57.34	\$573.40	http://www.fishersci.com
Cooler for sample transport	8x5.875x11.5 Styrofoam Cooler_	60	\$7.13	\$427.80	http://www.mrboxonline.com/shopping_cart.php or buy locally
Camel hair brush	Camel's Hair Brush Long Handle,S30423, Pack of 12 C&A Scientific No.:BR661EDU EMD (or equivalent)	5	\$90.00	\$450.00	http://www.fishersci.com or buy locally
Pen knife	3 1/4 inches closed with a single Stainless Steel blade	20	\$6.50	\$130.00	http://www.bandkenterprises.com/ser/vlet/the-1181/WINCHESTER-Clip-Stainless-Folder/Detail of buy locally

Labels	Fisherbrand* Self-Adhesive Labels, White w/red border; 3L x 1.75 in. W (76 x 44mm), cat number 11-850A, Pack of 360 (or equivalent)	20	\$31.56	\$631.20	http://www.fishersci.com
Hand Pruning Shears	Felco hand pruners, Model 2. Heavy-duty, lightweight pruner features forged light metal alloy, plastic-coated handles, rubber cushion stop, 2-1/4" replaceable blade with sap groove, and wire cutting notch. 8-1/2" Long. (or equivalent)	20	\$44.75	\$895.00	http://www.forestry-suppliers.com or buy locally
Scissors	Standard Dissecting Scissors, 6 inch, straight	20	\$41.77	\$835.40	http://www.fishersci.com or buy locally
Tape	buy local -- masking tape or flag tape white 1" x 100 ft	20	\$5.50	\$110.00	http://www.seton.com/biodegradable-flagging-tape-sp48.html or buy locally
Twine	buy local --- twine is readily available	20	\$1.50	\$30.00	Buy locally
Thermometer	Digital Max/Min Pocket Thermometer. This waterproof digital thermometer displays a broad range of high and low temperatures from -40°F to +500°F with the Celsius equivalent (-40°C to 260°C) available at the flick of a switch in addition to max/min and hold functions. An update selection button allows fast (one second) or regular (10 second) temperature updates. The thermometer also features a step-down probe and Safe-T guard anti-microbial housing. Reads in 0.1°F/0.1°C. Recalibratable. Powered by one 1.5V watch battery (included). 4.75" Probe. (or equivalent)	20	\$23.50	\$470.00	http://www.forestry-suppliers.com

Screw drivers set (phillips and straight)	2-Piece Screwdriver Set, Includes a Phillips and a straight screw driver. Model # 60-020 (or equivalent)	20	\$1.96	\$39.20	http://www.homedepot.com or buy locally
Camera	Nikon COOLPIX L24 14 MP Digital Camera with 3.6x NIKKOR Optical Zoom Lens and 3-Inch LCD with case and Sandisk 4GB Secure Digital SD HC Memory Card	20	\$104.21	\$2,084.20	http://www.amazon.com/Nikon-COOLPIX-L24-Digital-Red or buy locally
Computers	Desktop Computer with Intel® Core™ i7-2600S processor; at least 4GB DDR3 memory; 1TB hard drive; Windows 7 Home Premium; built-in wireless networking; 21" or larger LED monitor with Microsoft Home and Student and 2-year Norton antivirus protection. Must be for 220V with European plug. For example the following desktop bundle: HP Elite h8-1010 Desktop, 23" LED Monitor & Wireless Inkjet Printer Package: (h8-1010, 2311x, CH393A#B1H) Key features: Intel® Core™ i5-2390T processor; 8GB DDR3 memory; 1TB hard drive; Windows 7 Home Premium; built-in wireless networking; 23" widescreen LED monitor and wireless inkjet printer (Deskjet 3000), also with Microsoft Home and Student and 2-year Norton antivirus protection.	17	\$1,090.00	\$18530.00	http://www.bestbuy.com/site/HP+Elite+h8-1010+Desktop%2C+23%22+LED+Monitor+%26+Wireless+Inkjet+Printer+Package/9999160000050006.p?id=pcmprd159900050006&skuId=999916000050006 or buy locally

Laptop	HP ProBook 4530s Silver, 15.6" LED HD (Intel® Core™ i5-2410M 2.30GHz, 4Gb DDR3 RAM, 640Gb HDD 7200rpm, Intel® HD 3000 Graphics, DVDRW 8x, 4-in-1 Card Reader, ExpCrd/34, WiFi-N, BT3.0, HDMI, 6cell, 2.0MP HD Webcam, RUS, W7HP64, 2.4kg)+BAG Must come with Microsoft Home and Student and 2-year Norton antivirus protection. Must be for 220V with European plug.	3	\$958	\$2874.00	http://www.ecran.md/?pg=NBHPCo_mpaq&text1
All-in-One	Brother MFC-9320CW High Quality Digital Color All-in-One Printer with Wireless Networking	20	\$350.00	\$7,000.00	http://www.amazon.com/Brother-MFC-9320CW-Quality-Wireless-Networking/dp/B002OT8C8C or buy locally
Surge Protector	Surge protector for computer and printer, for 220V and European plug	20	\$14.99	\$299.80	Purchase locally
Hatchet or Axe	X-Series™ Axes, such as X7 Hatchet (14")	20	\$27.99	\$559.80	http://www2.fiskars.com/Activities/Gardening/Articles/Choose-the-Right-Axe-for-You or buy locally
Hand Saw	18" triple-grind saw blade cuts on the pull and push stroke to slice quickly and cleanly through the hardest wood. Now that's an advantage you can get a grip on. For example Power Tooth®	20	\$27.99	\$559.80	http://www.forestry-suppliers.com or buy locally
Mask Respirator	3M™ 6000 Series Half-Mask Respirator This reusable respirator features a lightweight face piece and easy-to-adjust head straps for superior comfort. The low-maintenance face piece cleans up easily, and the low-profile design allows for better vision and accommodates safety glasses. Cartridges and filters (sold	40	\$12.65	\$506	http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7557

	separately) can be easily replaced by simply twisting them on and off. NIOSH approved.				
Total:				\$123,696.24	

PHYTOSANITARY LABORATORY EQUIPMENT

Item	Specification	Quantity	Estimated Item Cost	Estimated Total Cost	Possible Vendor
Compound Microscope	<p>Binocular Microscopes:</p> <ul style="list-style-type: none"> - transmitted light with LED - prepared for fluorescence - brightfield, darkfield, phase contrast , differential interference contrast (DIC) - Eyepiece 10x - Condenser 0.9/1.25 for objectives 5 x-100x in brightfield - Mechanical stage with specimen holder for 2 slides - Objectives: <ul style="list-style-type: none"> - Objective A plan 5X/0.12 - Objective achroplan 10x/0.35 for examination in brightfield transmitted light - Objective achroplan 40x/0.65 for examination in brightfield transmitted light - Objective achroplan 100x/1.25 oil for examination in brightfield transmitted light - Conversion filter integrated in stand - Phototube, camera port Binocular ergonomoy phototube 30°/25 (100:0/30:70/0:100), reversed image camera port with interface 60N - Digital camera with at least 5Mpx resolution - digitization : 3x8 bit/pixel - integration time 10µs up to 2 sec. - Interfaces: 1x SD card slot, 1x mini USB 2.0, 1x AV (S-Video),1x DVI- D (HDMI) - Spectral range: Approx. 400 nm-700 nm, IR filter -Read-out mode: Progressive - Optical interface: C-mount <p>Image Acquisition and Management Software for Light Microscopy under Windows XP and Windows Vista 32 incl. Manual on DVD</p> <ul style="list-style-type: none"> - with dust cover <p>For 220V with European plug. Preferred instrument: ZEISS AxioScope LED Transmitted with camera</p>	4	\$14,213.00	\$56,852.00	http://www.zeiss.com or http://www.fishersci.com

Epifluorescence microscope	<p>Epifluorescence microscope. - Phototube, camera port- Digital camera with at least 5Mpx resolution- Software for image acquisition for Windows 7, and manual- with dust cover For 220V with European plug. Preferred instrument: ZEISS AxioScope LED with LED Fluorescence and Camera</p>	1	\$24,686.00	\$24,686.00	http://www.zeiss.com or http://www.fishersci.com
Binocular Stereo Zoom Dissecting Microscope	<p>Stereo zoom microscope- - Magnification: 6.5 to 250x - Binocular head inclinable to 45 deg. - 25x eyepiece - built-in LED illuminator for illumination for cold and white light and tiltable illuminator for incident light - auxiliary lens for a total magnification of 250x - camera port - Digital camera with at least 5Mpx resolution - Software for image acquisition for Windows 7, and manual - with dust cover - Image Acquisition and Management Software with the following benefits : Complete protocol of acquisition history stored as meta information in ZVI image ZVI images can be saved in a compressed format. Acquired images can be saved automatically after acquisition Software assistant for converting (tif, jpeg, bmp)</p>	5	\$8,065.00	\$40,325.00	http://www.zeiss.com or http://www.fishersci.com

	<p>images into ZVI. Software assistant for editing the dimensions of multidimensional images</p> <p>Image export (bmp, jpg, j2k, tif, tga, png, psd, img, cmp) with freely configurable parameters and batch exporting function</p> <p>Interactive measurement of intensity profiles, length, area, perimeter, circle, angle, counting and marking of events</p> <p>Intensity profiles are averaged according to the selected line width</p> <p>Digital microscopy camera: Number of Pixels: 1388 (H) x 1038 (V) = 1.4 Mega pixel color Live frame rates(depending on hardware and software configuration): H x V Frame Rate@1ms Digitization: 8 Bit / Pixel Integration Time: 1 ms to approx. 4 s Optical interface: C-mount Power Supply: via FireWire interface For 220V with European plug.</p> <p>Preferred instrument: ZEISS Stemi-2000C with camera.</p>				
Magnifier with illumination- Table fixed	<p>Hands-Free Fold-Up Magnifiers; Lens Dia. 0.5 in.(1.3cm); Lighted: Yes; Magnification 10.0X; Allow two-handed examination of objects; Yields sharp, crisp, distinct image; Includes: Batteries, with lighted models. For example: Fisherbrand cat. number 14-648-25.</p>	8	\$35.43	\$283.44	http://www.fishersci.com

Insect Rearing Chamber	<p>10 cu ft with temp. and humidity control. Phenolic coated coils. Temperature range: 5C to 70C, 20-95% RH, Temperature Uniformity: $\pm 0.3^{\circ}\text{C}$. With data logger.</p> <p>Stackable, with leveling feet, 208-230V with European plug, 60 Hz</p> <p>For example: Caron Products Model 6015 with built-in temperature recorder. Single pen, 6", 7 day, 24 hour (Accessory RCDR301)</p>	2	\$15,695.00	\$31390.00	www.vwrsp.com
Plant Growth Chamber	<p>700L, 230V electrical with European plug, Temperature range: -10 to 60°C (14 to 140°F), 30 to 60°C (86 to 140°F) with Humidity and Illumination, color screen controller with 25 programs, each with 100 sections for temperature, humidity, and light settings. The maximum memory capacity of controller is 500 program segments. A microprocessor controls the humidification and dehumidification system with a range of 10–90% relative humidity, with an accuracy of $\pm 1.5\%$. Model: KBW 720</p>	1	\$20,898.00	\$20,898.00	www.vwrsp.com
Large capacity Magnetic Hot Plate Stirrer	<p>Heidolph* MR Hei-Tec Magnetic Hot Plate Stirrers, Brinkmann (or equivalent model), Stirring from 30 to 1400 rpm, Temperature setting from 20 to 300C with $\pm 5^{\circ}\text{C}$ accuracy, up to 20 l capacity, ceramic coated surface, 230V with European plug</p>	5	\$1,225.72	\$6,128.60	www.vwrsp.com

Stir Bar Assortment	SPINPACK, STIRRING BAR, TEFLON, ASSORTMENT, 6/PKG, octagon Spinbar Magnetic Stirring Bars, Teflon PTFE coated, with pivot ring. Contains two of each: (1" x 5/16") (11/2" x 5/16") (2" x 5/16").	10	\$37.51	\$375.10	www.vwrsp.com
Top loading balance	Mettler NewClassic ML precision balance, 3200 g capacity with repeatability of +/- 0.01g, includes: Protective cover, Below weighing hook for weighing below the balance, MonoBloc weighing technology, Internal adjustment at a keystroke, Overload Protection, Programmable 1 Smart Key for shortcut access to application, Built in Date and Time function, Protection of main balance configuration, Weighing in 16 different units, Taring over the entire weighing range, ability to connect balance to a PC via the RS232 slot, and transfer you weighing results to open programs such as Excel. 220 - 240 V European plug	7	\$1,923.00	\$13,461.00	http://www.thomassci.com/Instruments/Toploading-Balances/_/NewClassic-ML-Precision-001g-Balances/?q=top%2bloading%2bbalances or www.vwrsp.com
Analytical balance	Mettler NewClassic MS Analytical Balance, 220 g capacity with 0.1 mg repeatability, Readability: 0,1 mg, Min. load: 10 mg, FACT® Fully Automated Calibration Technology, Built-in RS-232 Interface 220 - 240 V European plug. Mettler balance preferred.	3	\$4,052.00	\$12,156.00	www.vwrsp.com
Digital Floor Scale	35kg capacity floor scale with digital read-out, large stainless steel platform, non-slip adjustable leveling feet, such as CPWplus L Floor Scale, 75 lb/35kg x 0.2 lb/10g, 220 to 240V with European plug	1	\$525.00	\$525.00	http://www.thomassci.com/Instruments/Scales/_/CPWplus-L-Floor-Scales/?q=floor%2bscale

Blender	1.2 Liter Blender With Timer Glass Container, Powerful, 2-speed stainless steel blender. Low speed 15,600 rpm - high speed 20,000 rpm Working capacity 180 -1,900 mL Motor is series- wound, fan-cooled, with permanently lubricated bearings 220-240V with European plug, part number 8010G or equivalent	2	\$542.16	\$1,084.32	http://www.thomassci.com/Equipment/Blenders/_/TWO-SPEED-LABORATORY-BLENDER-WITH-TIMER/?q=blenders%252b240v&sr=db5db38d-2ddc-468e-95f1-d65927f0bc24
Refrigerator	General-Purpose Laboratory Refrigerator designed for general-purpose clinical, life science, pharmaceutical, biotech, and industrial use, 1 to 10°C, 5 cu ft. volume, Manual defrost preferred 220 - 240 V European plug	1	\$1,441.36	\$1441.36	www.vwrsp.com
Refrigerator	General-Purpose Laboratory Refrigerator designed for general-purpose clinical, life science, pharmaceutical, biotech, and industrial use, 1 to 10°C, 18 cu ft. (500 L) volume, Manual defrost preferred 220-240V with European plug	3	\$2,148.92	\$6446.76	www.vwrsp.com
Refrigerator	General Purpose Laboratory Refrigerator; Isotemp; 47 to 49 cu. ft.; Temperature range: 1 to 12°C Digital temperature controller with intuitive interface Temperature stability of ±3°C and cabinet uniformity of ±3°C Access port; Alarms; Solid stainless-steel door Florescent light With chart recorder For example: Fisher Scientific Cat. 11-670-255. 220 - 240 V European plug Sanyo MPR-1411 +4 Deg C Biomedical Refrigerator 48.4 Cu. Ft. •48.4 Cu. Ft.(1370 L) •Temp. Range: 2 C to 23 C •257W Defrost Heater	2	\$6,522.57	\$13,045.14	http://www.fishersci.com/ecom/servlet/fsproductdetail?catalogId=29104&productId=13901121&langId=-1&storeId=10652&distype=2&isChemical=false&highlightProductsItemsFlag=Y&fromSearch=1 http://www.cooler-store.com/sanyo_4_deg_c_biomedical_refrigerator_mpr_1411_19645_prd1.htm

	•1565 Btu Max. Heat Release				
Deep Freezer (-20 C)	General-Purpose Laboratory Upright Freezers, approx. 500 L in size, Manual defrost, must be 230V with European plug, or equivalent freezer	1	\$1,697.61	\$1,697.61	www.vwrsp.com
Ultralow freezer	Ultra-Low Temperature Upright Freezer, –86 to –50°C, Microprocessor Temperature Control System, Advanced Monitor/Alarm System, Automatic Voltage Compensator, 220-240 V with European plug, 368 L (13 cu. ft.)	1	\$15,267.06	\$15,267.06	www.vwrsp.com
Digital Thermometer	Digital Refrigerator/Freezer Thermometer with Recorder Output and with a fast-response Type-K beaded probe, a 9V battery, and a recorder output jack, Traceable®A serial numbered certificate is provided from an ISO 17025 calibration laboratory accredited by A2LA to indicate thermometer traceability to standards provided by the National Institute of Standards and Technology. Such as VWR Cat. # 77776-726	3	\$ 121.39	\$364.17	www.vwrsp.com
Temperature Chart Recorder	Temperature chart recorder with spiral-wound bimetallic strip transducer, hinged door, built-in slot for optional tie-down cable and lock, battery door, and durable, corrosion-resistant black ABS and polycarbonate enclosure, with digital LCD, and can be set to 7-day or 24-hour recording times. °C/°F switchable. –30 to 50°C (–22 to 122°F) A certificate is provided to indicate instrument traceability to standards provided by the National Institute of Standards and Technology. CE marked. IP21 rated. For example: VWR cat. # 97006-910	5	\$249.25	\$1246.25	https://www.vwrsp.com

Charts for Temperature Chart Recorder	7-Day Charts for temperature range –30 to 50°C, Accessory for chart recorder Pack of 60. VWR cat. # 61280-128	5	\$59.98	\$299.90	https://www.vwrsp.com
Analytical Halogen Moisture Analyzer	Halogen Moisture Analyzer Temperature range 50 - 200 °C (122 - 392 °F) Readability moisture content 0.01% Minimum sample weight 0.5 g Maximum sample weight 54 g Readability 1 mg Repeatability (s) (10 g sample) ± 0.015 % Language English, French, German, Italian, Spanish, Portuguese, Japanese, Russian Interface RS232C., 220-240 V with European plug. Preferred model: Mettler Toledo HB43-S Compact Analytical Halogen Moisture Analyzer	1	\$3,962.00	\$3,962.00	https://www.vwrsp.com
Vertical autoclave	Top-loading vertical autoclave, 75 l or larger, Digital LCD for pressure, temperature, time and process alerts, Stainless steel housing 6 or more preset programs, Steam generator separated from sterilization chamber but in same housing. Mineral-free water level regulation, Exhaust steam is cooled before venting, Access secured by password and/or door lock RS-232 interface	2	\$20,870.84	\$41741.68	www.fishersci.com or www.vwrsp.com
Tabletop autoclave	High grade 316L stainless steel sterilization chambers, Analog controls and display of pressure and temperature. T60 minute timer Temperature selection from 100 to 134°C (212 to 273°F), Fast or slow exhaust options. Continuous pressure purge, 3.3 L water reservoir, and dead bolt lock.	1	\$4,928.94	\$4,928.94	www.vwrsp.com

	Analog controls and display of pressure-temperature. UL and CSA approved; ASME stamped. 1400W 220- 240V with European plug. For example: Model 2340M, VWR Cat. # 58619-015				
CO2 Incubator	Binder Model CB 210 with O2 Control (or equivalent) 220-240V, 50/60Hz, 210 L (7.50 cu. ft.) Temp. range: 7° above ambient to 60°C, Temp. fluctuation +/- 0.1C, CO2 range 0 to 20%, IR sensor for CO2, LCD Screen, Standard-compliant hot air sterilization at 180 °C (DIN 58947), Permadyr System, gas mix nozzle, inner glass door, RS 422 interface for communication software APT-COM™ DataControlSystem, with gas supply service option for automatic gas switching with one stacking frame for 2 units	2	\$18,105.78 \$1,492.74 (for frame)	\$37704.30	www.vwrsp.com
Incubator	Forced Air Incubators, 50 to 65 L capacity, Microprocessor Control, LCD Display, two doors (one solid, one glass), over-temperature and over-current protection, and sensor error detection. Constructed with durable, powder-coated steel exterior (or stainless steel exterior) and stainless steel interior, 230V and European plug. For example: VWR Cat. # 414004-590	2	\$3,126.20	\$6,252.40	www.vwrsp.com

Cooling Incubator	Low-Temperature/B.O.D. Incubator, Volume: 113 L (4 cu. ft.) , Temperature Range: –10 to 45°C at 20°C, Microprocessor Control, Digital Display of Temperature, Safety High/Low-limit Thermostat, Gentle Forced Air Circulation, Interior Electrical Outlet, Must be 220-240 V with European plug. For example: VWR Model 2005	1	\$3,510.24	\$3,510.24	www.vwrsp.com
Elisa Equipment	Two-plate Automated ELISA Processing System, Reliable, cost-effective, and easy to use and maintain. Quickly and easily processes up to two 96-well microplates and up to 12 different assays simultaneously. Features the most advanced and user-friendly control system available. Designed with full walk-away capability, sample ID-bar-code reading, chain-of-custody, and instrument self-diagnostics. 220-240 V with European plug	1	\$53,312.70	\$53,312.70	http://www.fishersci.com/ecom/servlet/fsproductdetail?storeId=10652&productId=9789263&catalogId=29104&matchedCatNo=23029968&endecaSearchQuery=%23store%3DScientific%23N%3D0%23rpp%3D15&fromSearch=1&searchKey=automated immunoassay elisa&highlightProductsItemFlag=Y
Plant Pathogen diagnostic test kits	Apple mosaic virus ELISA: Complete Kit, PSA 30700/0096, Includes: Antibody-coated 96-well microtiter plates, Alkaline phosphatase enzyme conjugate, ECI buffer, 5X concentrate, PNP substrate tablets, PNP substrate buffer, Positive control, PBST wash buffer, 20X concentrate, 50 ml, Tween-20, General extract buffer, GEB, User Guide	1	\$165.00	\$165.00	https://orders.agdia.com/InventoryD.asp?attribute_Size=96&collection=PSA+30700&loc=IN
Erwinia amylovora EXPRESS™ kit	100 tests (1077-14)	3	\$297.85	\$893.55	http://plant.neogeneurope.com
Erwinia stewartii IDENTIKIT™ - Y/B	96 well (1082-09)	3	\$209.30	\$627.90	http://plant.neogeneurope.com
Ralstonia solanacearum EXPRESS™	100 tests (1091-14)	3	\$297.85	\$893.55	http://plant.neogeneurope.com
Erwinia amylovora Fluoriscan-IF™	250 tests (1077-16)	3	\$241.50	\$724.50	http://plant.neogeneurope.com

Erwinia stewartii Fluoriscan-IF™	250 tests (1082-16)	3	\$241.50	\$724.50	http://plant.neogeneurope.com
Pseudomonas syringae pv syringae Fluoriscan- IF™	250 tests (1089-16)	3	\$241.50	\$724.50	http://plant.neogeneurope.com
Ralstonia solanacearum Fluoriscan-IF™	250 tests (1091-16)	3	\$241.50	\$724.50	http://plant.neogeneurope.com
High Speed Centrifuge, Refrigerated	Eppendorf* Multipurpose Centrifuge, Model 5804R Centrifuge, 220-240V with European plug, Max. Capacity: 4 x 100 mL , Max. speed: 14,000 rpm, -9 to 40C, No substitution allowed.	4	\$8,090.00	\$32,360.00	www.vwrsp.com
High Speed Centrifuge Swing Bucket Rotor	Swing-Bucket Rotor with Four Buckets to fit Eppendorf Multipurpose Centrifuge Model 5804R, for 50 ml Falcon tubes	4	\$2,180.00	\$8,720.00	www.vwrsp.com
Adapter for Four 15 mL Conical Tubes	To fit Swing-Bucket Rotor for Eppendorf Multipurpose Centrifuge Model 5804R, pack of 2	8	\$228.00	\$1,824.00	www.vwrsp.com
Adapter for Twelve 1.5–2.0 mL Conical Tubes	To fit Swing-Bucket Rotor for Eppendorf Multipurpose Centrifuge Model 5804R, pack of 2	8	\$228.00	\$1,824.00	www.vwrsp.com
Fixed-Angle Rotor with Cover	To fit Eppendorf Multipurpose Centrifuge Model 5804R, for 30 x 1.5–2.0 mL tubes	4	\$1,075.00	\$4,300.00	www.vwrsp.com

Spectrophotometer	Beckman Coulter DU 730 Life Science Spectrophotometer CSV File Format for Data Transfer USB Ports Spectral Bandwidth of 3.0 nm Touch-Screen User Interface Operator and Sample ID's Wavelength Range from 190 to 1100 nm Focused Beam Design Quick Interchange of Cell Holders & Modules Password Protection with Security List Automatic Lamp Turn-Off 220-240V with European plug,	1	\$8,400.00	\$8,400.00	www.vwrsp.com
Cuvettes for spectrophotometer	UV Silica Cuvettes, Rectangular, Open-Top, 4.2 mL, Pack of 6	1	\$692.38	\$692.38	www.vwrsp.com
Cuvettes for spectrophotometer	Optical Glass Cuvettes, Rectangular, Open-Top, 4.2 mL, Pack of 4	1	\$248.02	\$248.02	www.vwrsp.com

pH Meter	<p>Type Benchtop pH Meters with swing arm electrode stand: ORION* 3-Star pH Meters with Epoxy Low Maintenance Double Junction pH Electrode</p> <p>Bright, backlit LCD display Convenient built-in Quick-Start Guide with calibration instructions Stores, displays and prints up to 10 methods with individual method password protection Automatic or manual temperature compensation Auto-read/hold function IP54 dustproof and splashproof pH: automatic or manual calibration; 1 to 5 calibration points; auto-buffer-recognition of NIST*/US and DIN buffers ATC calibration Advanced self-tests on meter operation, self-diagnostics Full complement of GLP-related features 220-240V with European plug</p>	3	\$951.00	\$2853.00	https://www.vwrsp.com
Entomology Dissection Equipment, 1 scalpel, 10 scalpel blades, 2 micro-dissection forceps (straight) and 2 micro-dissection forceps curved, 2 teasing needles straight, 2 teasing needles curved, and 1 scissors.	Designed for insect studies. Kit contains one 4.5" microdissection forceps, one 4.5" curved microdissection forceps, one 4.5" long point entomology forceps, one 4.25" short point entomology forceps, two straight handle plastic teasing needles, two curved plastic handle teasing needles, one pair 4.5" Iris scissors, one #3 Scalpel, ten #10 Scalpel blades, a double fold vinyl case and a 6" plastic ruler. Cat # 53873 or equivalent	10	\$15.90	\$159.00	http://www.forestry-suppliers.com

Bacteria Cell Counter	<p>UVP* Colony Doc-It* Imaging Station Includes: System includes Colony Doc-It imaging station; Digi Camera 105 digital color camera with USB interface; with Analysis software 8-bit, 12.1 megapixel digital color camera Light sources (darkfield, white light epi and transillumination white light, epi blue light) Use pour, spread and spiral plates and filters with sizes from 33mm to 150mm Capture colony sizes as small as 0.08mm Generate fast automatic and accurate colony counting with detailed statistics Define parameters including eight color differentiation, split or merge, filter by group or size Software offers many image enhancement and reporting tools and supports compliance with 21 CFR Part 11 For 230 V with European plug</p>	2	\$6,900.00	\$13,800.00	https://www.fishersci.com/ecom/servlet/fsproductdetail?storeId=10652&productId=9135441&catalogId=29103&matche dCatNo=UVP97053902 UVP97053901&endecaSearchQuery=%23store%3DHealthcare%23N%3D0%23rpp%3D15&fromSearch=1&searchKey=counter counters colonies Colony&highlightProductsItemsFlag=Y
UV Lights	Antibacterial UV LAMP 253.7nm, 30 W, Wall Mounted, To be purchased locally	6	\$80.00	\$480.00	To be purchased locally
UV Lamp	Antibacterial lamp, wavelength about 253,7 nm, used to disinfect the air and the surfaces in rooms with high microbial culture employing the ultraviolet radiation. 30W. Must have an orientation device that grants the lamp approximately 240° of rotation to direct the UV radiation flux in the desired position.	2	\$80.00	\$160.00	To be purchased locally
Stain Tray	For routine staining, 10-Slide Tray with Clear Lid, VWR Cat. # 71002-048	1	\$311.55	\$311.55	www.vwrsp.com
Stain Tray	For routine staining for fluorescent work, 10-Slide Tray with Black Lid, VWR Cat. # 71002-050	1	\$311.55	\$311.55	www.vwrsp.com

Water Distillation equipment	Compact, Efficient Distiller for General Laboratory Use. At least 4 L/hr. capacity. Wall Mounted with overheating protection and automatic shut-down. For example: Merrit Water Distillation Equipment This Water Still comes with a strong metal stand for bench or wall mounting. Borosilicate glass boiler with 3kW chromium-plated heater allows unit to output up to 4L of distilled water per hour. High-efficiency coil condenser ensures cool distillate. Hose can be fitted or removed easily and safely.	3	1,676.00	\$5,028.00	http://www.labsafety.com/search/water+purification+equipment/24553218/43388/?isredirect=true
Water Tank	30 L Nalgene water tank with spigot	3	240.00	\$720.00	Purchase locally
BSL-2 Hoods	Class II Type A2 Biological Safety Cabinet, 4'W Hood, Fluorescent and UV Lights part number 155206, must fit in room with 2.4 m ceiling. Internally mounted line-of-sight information center provides constant monitoring of HEPA filter life via a bar graph, system's status and airflow alert warning if motor speed changes. Smart Start™ System lets you program start up and shut down operations. Fully closing, tempered safety glass sash with 10" working height opens to 21.7"H. Fluorescent lighting. Electronic security lock. Easy-to-clean, 304 stainless steel interior. Side-mounted services fixtures and electrical duplex receptacles.	4	\$9,875.00	\$39500.00	http://www.labsafety.com/search/hoods/35443237/155206/
Automatic Jar Gassing System	Programmes for anaerobic and microaerophilic cyclesAutomatic detection of jar leakageCan be connected either to a cylinder of anaerobic mixedgas or directly to an anaerobic workstation. Whitley Jar Gassing System	1	\$11,950.00	\$11,950.00	Microbiology International800 EZ MICRO800EZMICRO.c om

Jar for Automatic Gassing System	10 plate jar, plastic	1	\$745.00	\$745.00	Microbiology International 800 EZ MICRO 800EZMICRO.com
Jar for Automatic Gassing System	48 plate jar, stainless steel	1	\$1,475.00	\$1,475.00	Microbiology International 800 EZ MICRO 800EZMICRO.com
Cobb Sieves	Stainless Steel Mesh Sieve Set These economical sieves feature stainless steel mesh and steel frames. The set of six sieves includes the following mesh sizes: 5 (4,000 micron), 10 (2,000 micron), 35 (500 micron), 60 (250 micron), 120 (125 micron), and 230 (63 micron). Includes lid and catch pan. Sieve Diameter: approximately 7".	1	\$149.00	\$149.00	http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7489&title=Stainless+Steel+Mesh+Sieve+Set
Drying Oven with forced air	Binder drying oven with forced air and Timer (or equivalent), stainless steel, 230V with European plug, interior volume: 400 L (14 cu. ft.), temp. range 5 to 300C, microprocessor controller, degree-accurate temperature adjustment, digital timer, one ramp function, and LED display for time and temperature. VWR Cat. # 80079-018	1	\$5,642.57	\$5,642.57	www.vwrsp.com
Drying Oven with forced air	Binder drying oven with forced air and Timer (or equivalent), stainless steel, 230V with European plug, interior volume: 53 L (1.89 cu. ft.), temp. range 5 to 300C, microprocessor controller, degree-accurate temperature adjustment, digital timer, one ramp function, and LED display for time and temperature. VWR Cat. # 80079-030	1	\$2295.15	\$2295.15	www.vwrsp.com

Forced convection drying oven	Binder forced convection oven (or equivalent), stainless steel, 230V with European plug, interior volume: , 240 L (8.50 cu. ft.), temp. range 5 to 300C, microprocessor controller, degree-accurate temperature adjustment, digital timer, one ramp function, and LED display for time and temperature. Or equivalent Such as VWR Cat. # 47746-726	2	\$ 4,462.85	\$8925.70	www.vwrsp.com
Muffle furnace	Benchtop Muffle Furnace, 864 Cu. In. Capacity, 240V with European plug, part number 5300A30. Or equivalent.	1	\$2,980.00	\$2,980.00	http://www.thomassci.com/Paint-Testing/Furnaces/ /THOMAS-Durable-Benchtop-Muffle-Furnace/?q=muffle%2bfurnace
Automatic Pipettes	Gilson PIPETMAN® Starter Kit (3 Pipetman: P20 (2–20 uL), P200 (50–200 uL), P1000 (200–1000 uL), Tips: D200 and D1000 Diamond Tips, 3 Single Pipette Holders, 10 Coloris ID Clips, 1 Gilson Guide to Pipetting). No substitution allowed.	3	\$769.00	\$2,307.00	http://www.pipetman.com/Pipettes/Single-Channel/Pipetman.aspx
Automatic Micro Pipettes	Gilson PIPETMAN Microvolume Starter Kit (P2(0.2–2 uL), P10 (1–10 uL), P100 (20–100 uL), DFL10ST and DF100ST Diamond Tips, 3 Single Pipette Holders, 10 Coloris ID Clips, 1 Gilson Guide to Pipetting). No substitution allowed.	1	\$860.00	\$860.00	http://www.pipetman.com/Pipettes/Single-Channel/Pipetman.aspx

Multichannel Pipette	PIPETMAN Neo MULTI, 8x20 F14401, No substitution allowed.	1	\$499.00	\$499.00	http://www.gilson.com/en/Pipette/Products/47.260/Default.aspx
Multichannel Pipette	PIPETMAN Neo MULTI, 8x200 F14403, No substitution allowed.	1	\$499.00	\$499.00	http://www.gilson.com/en/Pipette/Products/47.260/Default.aspx
Multichannel Pipette	Eppendorf* Research* Plus Series Multichannel Pipettors, 8-Channel Pipettor 30–300 µL, No substitution allowed.	1	\$803.00	\$803.00	www.vwrsp.com
Pipette Stand	Pipette Stand Workstation or equivalent	6	\$138.81	\$832.86	http://www.sks-science.com/lab-supply-p-570.html or purchase/build locally
Automatic Pipette Tips	Gilson Pipetman D200 Tips in Autoclavable Towerpacks, 10 Tipacks of 96 tips. Volume range 2-200µL.	5	\$39.90	\$199.50	https://www.pipetman.com/Tips/Pipetman-Tips/Tipack-autoclavable.aspx
Automatic Pipette Tips	Gilson Pipetman D1000 Tips in Autoclavable Towerpacks, 10 Tipacks of 96 tips. Volume range 100-1000µL.	5	\$41.80	\$209.00	https://www.pipetman.com/Tips/Pipetman-Tips/Tipack-autoclavable.aspx
Automatic Pipette Tips	Gilson Pipetman DL10 Tips in Autoclavable Towerpacks, 10 Tipacks of 96 tips. Volume range 0.1-20µL	5	\$47.50	\$237.50	https://www.pipetman.com/Tips/Pipetman-Tips/Tipack-autoclavable.aspx
Bulk Automatic Pipette Tips	Gilson ECOPACK range BOX OF 10,000 TIPS; 10 BAGS OF 1,000, Volume range: 2-200 ul, Order #: F161930	1	\$330.00	\$330.00	http://www.gilson.com/en/Pipette/Products/55.247/Default.aspx

Bulk Automatic Pipette Tips	Gilson ECOPACK range BOX OF 10,000 TIPS; 10 BAGS OF 1,000, Volume range: 0.1 to 20 ul, Order #: F161450	1	\$330.00	\$330.00	http://www.gilson.com/en/Pipette/Products/55.247/Default.aspx
Bulk Automatic Pipette Tips	Gilson ECOPACK range BOX OF 10,000 TIPS; 10 BAGS OF 1,000, Volume range: 100 to 10000 ul, Order #: F161670	1	\$330.00	\$330.00	http://www.gilson.com/en/Pipette/Products/55.247/Default.aspx
Automatic Pipettor	Gilson Macroman™ Pipette Controller for 1 to 100 mL pipettes, No substitution allowed.	4	\$513.36	\$2,053.44	http://www.fishersci.com
Water bath	With at least 10 L capacity, temperature range from 5° above ambient to 99°C, and temp stability +/-0.2C or better. For example: VWR 12 L Digital Water Bath Model 89032-216, Must be 230V with European plug.	5	\$1,009.95	\$5,049.75	www.vwrsp.com
Test Tube Rack	Test Tube Rack for water bath, Holds Fifty-Five 13 mm Tubes	5	\$119.24	\$596.20	www.vwrsp.com
Test Tube Rack	Test Tube Rack for water bath, Holds Thirty-Six 16 mm Tubes	5	\$119.24	\$596.20	www.vwrsp.com
Ultrasonic bath	1.9 L Ultrasonic Cleaner with Digital Timer and Heater, 220V	2	\$438.18	\$876.36	www.vwrsp.com
Water bath with shaker	11.8 L Digital Shaking Water Bath, 5° above ambient to 99°C (210°F)	1	\$2,987.86	\$2,987.86	www.vwrsp.com

Vortex Shaker	Mixer; Vortex; Heavy Duty; On mode: 300 to 2500rpm; Touch mode: 300 to 3500rpm; LED Display; 230V, European plug	4	\$831.00	\$3,324.00	www.scientificindustries.com/genie2.html or www.fishersci.com
Vortex shaker accessories	Assorted holders for vortex shaker, such as Large Sample Set (Model H302). Should hold tubes up to 50 ml, test tube holding device 210 mm, and 1.5 ml tube attachment	4	\$138.00	\$552.00	www.scientificindustries.com/genie2.html or www.fishersci.com
McFarland densitometer	Densitometer, Grant Instruments DEN-1, Thomas # 1228H81	1	\$789.00	\$789.00	http://www.thomassci.com/instruments/Densitometers/_/Densitometer/
McFarland standards	McFarland Standards For Den-1	1	\$295.00	\$295.00	http://www.thomassci.com/instruments/Densitometers/_/Densitometer/
Densitometer Tube adapter for Den-1	Tube Adapter, 16mm Tubes	1	\$46.00	\$46.00	http://www.thomassci.com/instruments/Densitometers/_/Densitometer/
Vacuum pump	Related Categories Diaphragm, HPLC Accessories, KNF, KNF Laboport® Solid PTFE Vacuum Pump, Laboport® solid PTFE vacuum pump, more...feature CE compliantlimit ≤6 torr vacuum 20 L/min pumping speedL × W × H 12.2 in. × 6.2 in. × 8 in.weight 21 lb (9.5 kg) Must be 230V with European plug.For example, Aldrich-Sigma Z262293-1EA	2	\$2,045.00	\$4,090.00	www.sigmaaldrich.com

Temperature Probe	Digital Humidity and Temperature Monitor with ProbeTraceable®, Displays °C and °F, Computer Output Capability	3	\$279.14	\$837.42	www.vwrsp.com
Mill with knives	Digitally controlled mill with stainless steel blades, Sample volumes up to 0.7 L, size reduction, homogenization, and mixing. 1000 ml chamber volume, Final fineness* < 300 µm. Must be 230V with European plug. For example: Retsch Knife Mill GRINDOMIX GM 200 VWR Catalog # 89175-280	1	\$3,910.00	\$3,910.00	www.vwrsp.com
Digital micrometer	Digital Measuring Kit includes micrometer 09920-70, digital caliper 97152-08 and carrying case. Micrometer with digital counter offers direct inch/metric conversion with a 0 to 1"/0 to 25 mm range with a resolution of 0.00005"/0.001 mm; Caliper with LCD measures inside, outside depth and step from 0 to 6"/0 to 150 mm; resolution is 0.0005"/0.01 mm. Both instruments are RS-232 compatible.	1	\$189.00	\$189.00	http://www.coleparmer.com/catalog/product_view.asp?sku=0992341
Semiautomatic microtome	HM 200 ERGOSTAR Microtome, Richard-Allan Scientific. This power-assisted microtome combines the advantages of rotary and sliding microtomes. Power-assisted horizontal movements are proportionally related to the sample size moving across the knife edge. Must be 230V with European plug. Microtome Package # 84000-380	1	\$15,378.45	\$15,378.45	www.vwrsp.com

Sieve shaker	AS 200 Digit Sieve Shaker with Easy Clamp. features a digital time display and interval operation, as well as analog setting and optical control of the vibration height. They work at exactly 3,600 oscillations per minute and feature exact, reproducible results according to DIN 66165. Electrical 220V with European plug Feed Capacity 3 kg (6.6 lbs.) maximum Measurement Range 20 µm–25 mm No. of Fractions 9 or 17	1	\$3,436.60	\$3,436.60	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #325, 45 µm (0.0018")	1	\$144.00	\$144.00	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #230, 62 µm (0.0024")	1	\$99.15	\$99.15	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #120, 125 µm (0.0049")	1	\$99.15	\$99.15	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #60, 250 µm (0.0098")	1	\$99.15	\$99.15	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #35, 500 µm (0.0197")	1	\$99.15	\$99.15	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #18, 1.00 mm (0.0394")	1	\$106.45	\$106.45	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #10, 2.00 mm (0.0787")	1	\$106.45	\$106.45	www.vwrsp.com
Sieve for Sieve Shaker AS200	Sieve, ASTM Series #5, 4.00 mm (0.1575")	1	\$127.33	\$127.33	www.vwrsp.com

Soil probes	Soil Recovery Probe, Step, Dia 1/2 In, Length 40 In, Material of Construction Nickel Plated 4130 Alloy Steel, Connector Type 5/8 In Thread	1	\$86.90	\$86.90	http://www.grainger.com/Grainger/www/search.shtml?op=search&N=14775&in_dim_search=1&sst=subset
Agri-screen ticket kit	Neogen Agri-Screen Ticket, Kit (AT-25) — 8921. With ampoules, 25 samples. Specify: Please send longest shelf-life.	4	\$228.00	\$912.00	http://www.neogen.com/FoodSafety/
Activator ampoules	Neogene activator ampoules, 10 per set	10	\$11.00	\$110.00	http://www.neogen.com/FoodSafety/
Toxin measurement: Aflatoxin	Neogen Agri-Screen for Aflatoxin — 8010 Qualitative microwell test that visually screens at 20 ppb, up to 18 samples. Specify: Please send longest shelf-life.	3	\$97.00	\$291.00	http://www.neogen.com/FoodSafety/
Toxin measurement: Aflatoxin	Neogen Veratox for Aflatoxin. Quantitative microwell assay with a range of 5-50 ppb, up to 40 samples. Specify: Please send longest shelf-life.	1	\$295.00	\$295.00	http://www.neogen.com/FoodSafety/
Toxin measurement: DON	Neogen Agri-Screen for DON, Qualitative microwell test that visually screens at 1.0 ppm, up to 20 samples. Specify: Please send longest shelf-life.	1	\$150.00	\$150.00	http://www.neogen.com/FoodSafety/

Toxin measurement: Fumonisin	Neogen Agri-Screen for Fumonisin, Qualitative microwell test that visually screens at 5 ppm, up to 20 samples. Specify: Please send longest shelf-life.	2	\$150.00	\$300.00	http://www.neogen.com/FoodSafety/
Toxin measurement: Ochratoxin	Neogen Veratox for Ochratoxin. Quantitative microwell assay with a range of 2-25 ppb, up to 38 samples. Specify: Please send longest shelf-life.	3	\$295.00	\$885.00	http://www.neogen.com/FoodSafety/
Liquid Nitrogen Container	Liquid Nitrogen container, 20 L, static holding time of at least 180 days, Min. number of canisters: 6. For example: ThermoScientific CMC Model 8036	2	\$1,576.00	\$3,152.00	http://www.fishersci.com/ecom/servlet/fsproductdetail?catalogId=29104&productId=1266978&langId=-1&storeId=10652&distype=2&isChemical=false&highlightProductsItemsFlag=Y&fromSearch=1
Camera	Nikon COOLPIX L24 14 MP Digital Camera with 3.6x NIKKOR Optical Zoom Lens and 3-Inch LCD with case and Sandisk 4GB Secure Digital SD HC Memory Card	2	\$104.21	\$208.42	http://www.amazon.com/Nikon-COOLPIX-L24-Digital-Red

Computers	<p>Desktop Computer with Intel® Core™ i7-2600S processor; at least 4GB DDR3 memory; 1TB hard drive; Windows 7 Home Premium; built-in wireless networking; 21" or larger LED monitor with Microsoft Home and Student and 2-year Norton antivirus protection. Must be 230V with European plug.</p> <p>For example the following desktop bundle: HP Elite h8-1010 Desktop, 23" LED Monitor & Wireless Inkjet Printer Package: (h8-1010, 2311x, CH393A#B1H) Key features: Intel® Core™ i5-2390T processor; 8GB DDR3 memory; 1TB hard drive; Windows 7 Home Premium; built-in wireless networking; 23" widescreen LED monitor and wireless inkjet printer (Deskjet 3000), also with Microsoft Home and Student and 2-year Norton antivirus protection.</p>	18	\$1,090.00	\$19620.00	http://www.bestbuy.com/site/HP+Elite+h8-1010+Desktop%2C+23%22+LED+Monitor+%26+Wireless+Inkjet+Printer+Package/9999160000050006.p?iid=pcmprd159900050006&skuld=9999160000050006
Laptop computer	<p>HP ProBook 4530s Silver, 15.6" LED HD (Intel® Core™ i5-2410M 2.30GHz, 4Gb DDR3 RAM, 640Gb HDD 7200rpm, Intel® HD 3000 Graphics, DVDRW 8x, 4-in-1 Card Reader, ExpCrd/34, WiFi-N, BT3.0, HDMI, 6cell, 2.0MP HD Webcam, RUS, W7HP64, 2.4kg)+BAG</p> <p>with Microsoft Home and Student and 2-year Norton antivirus protection. Must be 230V with European plug.</p>	2	\$958.00	\$1916.00	http://www.ecran.md/?pg=NBHPCompaq&text1 or www.bestbuy.com
Projector	<p>MM Projector Canon LV-8225, 3xLCD (0.59"), 2500 Lumen (6000 hours), 3000:1, 16:10, 1280x800 (WXGA, up to WUXGA / HD Compatible), 1.2x Zoom Lens, Ultra-quiet 29dba, 10W Speaker, Auto Keystone Correction, LAN, RGB in/out, RCA, S-Video, NSHA, 252W (1W), 2.98kg</p>	1	\$848.00	\$848.00	http://www.ecran.md/?pg=Projectors&text1 or www.bestbuy.com

All-in-One	Brother MFC-9320CW High Quality Digital Color All-in-One Printer with Wireless Networking, Must be 230V with European plug.	3	\$350.00	\$1,050.00	http://www.amazon.com/Brother-MFC-9320CW-Quality-Wireless-Networking/dp/B002OT8C8C
All-in-one toner cartridges	For all-in-one printer	4	\$193.00	\$772.00	http://www.amazon.com
Electric hot plate Saturn ST-EC1161	Electrical: 220 volts / 1500 watts	1	\$50.00	\$50.00	http://www.maximum.md
Stock Pot 8 Qt. Basics Stainless Steel	Stainless Steel 8 liter	1	\$50.00	\$50.00	http://www.macys.com
Washing machine	<p>Durable stainless steel corrosion resistant structure</p> <ul style="list-style-type: none"> - Wash cabinet with 2 levels with 2 spray arms (3rd spray arm is in the upper basket) - Direct coupling of upper basket and injector mobile units to water feed with maximum use made of suds solution - Working chamber and door from stainless steel - All the plastic material used must be heat resistant, anti corrosive and resistant to organic solvents - Front loading - Microprocessor controller Freely programmable, - Electronic programming of all parameters - Safety device for cutting of the functioning cycle if the door is opened - 4-fold suds filtration system with wide area filter, coarse filter, glass splinter filter and micro-fine filter - Control for water level - Monobloc Water softener <30µS/cm continual 	1	\$11,500.00	\$11,500.00	Nitech company , local supplier

	<ul style="list-style-type: none"> reactivation during the cleaning program - Sensors in the machine for automatic mobile unit recognition - To have the possibility to view the washing cycle and the water temperature - To have the possibility to program the water temperature between 50-99 °C by electrical heating - Alphanumeric illuminated display - To have the possibility to memorize 30 programs - To have the possibility to change the program settings by using password - Integrated hot-air drying unit and storage drawer for liquid agent supply canisters - Program of enzymatic detergent washing, powder detergent washing and disinfectant - Hydrogen peroxide in a mildly alkaline environment (approx. pH 11) to digest and destroy any proteins still remaining on the instruments by means of oxidation. - To be delivered with dosing pump for liquid alkaline detergent and neutralizing detergent - To be delivered with baskets and inserts for flasks, funnels, Erlenmeyer, Berzelius and pipettes - Low noise level and over temperature protection 				
Total:				\$667,738.18	

CHEMICALS

Item	Specification	Quantity	Estimated Item Cost	Estimated Total Cost	Possible Vendor
Ethanol	>95%, Reagent grade, 4 L	3	\$136.00	\$408.00	Buy locally
Na ₂ HPO ₄ ·12H ₂ O	Disodium hydrogen phosphate dodecahydrate, 98.5%	1	\$60.46	\$60.46	http://www.fishersci.com or buy locally
NaH ₂ PO ₄ ·2H ₂ O	Sodium Phosphate Monobasic Dihydrate (Crystalline/Certified), 500g	1	\$168.66	\$168.66	http://www.fishersci.com or buy locally
KH ₂ PO ₄	Potassium Phosphate Monobasic, Crystalline, 500g	1	\$143.45	\$143.45	http://www.fishersci.com or buy locally
K ₂ HPO ₄	Potassium Phosphate Dibasic Anhydrous	1	\$143.50	\$143.50	http://www.fishersci.com or buy locally
Na ₂ CO ₃	Sodium Carbonate, White, crystalline powder, ACS Reagent Grade	1	\$70.59	\$70.59	http://www.fishersci.com or buy locally
NaHCO ₃	Sodium Bicarbonate (Fine White Powder), Fisher BioReagents, 500g	1	\$37.87	\$37.87	http://www.fishersci.com or buy locally
NaCl	Sodium Chloride (Dry Basis) >99.5%	1	\$42.57	\$42.57	http://www.fishersci.com or buy locally
KCl	Potassium Chloride White Crystals 99.0-100.5%, BioReagent	1	\$75.02	\$75.02	http://www.fishersci.com or buy locally
Tween-20	Polyoxyethylene-20-sorbitan Monolaurate, Poly Bottle; 100ml, bioreagent grade	1	\$28.21	\$28.21	http://www.fishersci.com or buy locally
Glycerol	1,2,3-Propanetriol Glycerol, Assay (by GC) 99.7% min., 1 L Poly bottle	1	\$98.41	\$98.41	http://www.fishersci.com or buy locally
Polyvinylpyrrolidone (PVP-10)	Polyvinylpyrrolidone, Fisher BioReagents, 500g Polyvinylpyrrolidone (dry basis) >=95%, Average Molecular Wt.: 40,000	1	\$139.10	\$139.10	http://www.fishersci.com or buy locally
Mannitol	D-Mannitol, Fisher BioReagents, 500g	1	\$40.72	\$40.72	http://www.fishersci.com or buy locally

Ascorbic acid	L-Ascorbic Acid (White Crystalline Powder), Fisher BioReagents, >=99.0%, 500g	1	\$89.72	\$89.72	http://www.fishersci.com or buy locally
Reduced glutathion	Glutathione, Reduced, Crystalline Powder, 99% min., 1g	1	\$46.37	\$46.37	https://www.vwrsp.com
PBS 10mM pH 7.2	Phosphate Buffered Saline (PBS), 20X CONCENTRATE, pH 7.5 1L	1	\$53.20	\$53.20	https://www.vwrsp.com
Diethanol amine	Diethanolamine, BAKER ANALYZED* Reagent. ACS Grade, 98.5% min., 500 ml	1	\$168.17	\$168.17	Buy locally
HCl	Hydrochloric Acid Solution, 1N, 4 L	1	\$41.87	\$41.87	Buy locally
Tris HCl, pH 7.5	Tris Hydrochloride, 1M Solution, pH 7.5, High Purity, 100 ml	1	\$52.15	\$52.15	http://www.fishersci.com or buy locally
EDTA	EDTA, ACS Grade., (Kestranal® A Idranal® II Ethylenedinitrilotetra-acetic acid Edetic acid), 500g	1	\$123.72	\$123.72	https://www.vwrsp.com
SDS	Sodium Dodecyl Sulfate), 20% Solution, 500ml	1	\$62.50	\$62.50	https://www.vwrsp.com
Tris	TRIS, Molecular Biology Grade, Ultra Pure, (2-Amino-2-(hydroxymethyl)-1,3-propanediol THAM Tris(hydroxymethyl)methylamine TRIS base), 500g	1	\$36.69	\$36.69	https://www.vwrsp.com
0.5 M Na2EDTA pH 8.0	EDTA , Disodium Salt, Dihydrate, Solution, 0.5M, pH 8.00, 100 ml Na2EDTA in water	1	\$45.41	\$45.41	http://www.fishersci.com or buy locally
Glacial acetic acid	Acetic Acid, Glacial, Biochemical Grade 99.8%, 1 L	1	\$54.54	\$54.54	http://www.fishersci.com or buy locally
Bromophenol blue	Bromophenol Blue (Free Acid), Fisher BioReagents, 25g	1	\$68.74	\$68.74	http://www.fishersci.com or buy locally
bovine serum albumin (BSA)	Albumin, Bovine, 98.0% min., 25g	1	\$149.00	\$149.00	https://www.vwrsp.com
Sucrose	Sucrose, (Crystalline)	1	\$32.11	\$32.11	http://www.fishersci.com or buy locally
Sorbitol	D-Sorbitol (Powder/Laboratory), 500g	1	\$97.47	\$97.47	http://www.fishersci.com or buy locally
Niaproof	~27% in H2O (Sigma), 500 ml, Synonym: 7-Ethyl-2-methyl-4-undecyl sulfate sodium salt, Sodium 7-ethyl-2-methyl-4-undecyl sulfate, Tergitol® 4 ,	1	\$56.60	\$56.60	http://www.sigmaaldrich.com

Crystal violet	Gentian Violet, 1% (w/v) Alcoholic Solution, 120 ml	1	\$19.19	\$19.19	http://www.fishersci.com or buy locally
Nutrient agar	Nutrient Agar; 500g	1	\$125.88	\$125.88	http://www.fishersci.com or buy locally
Thallium nitrate	Thallium Nitrate, 100g	1	\$64.05	\$64.05	http://www.fishersci.com
Cycloheximide	Cyclohexamide Crystalline, 5g Amber Bottle	1	\$85.00	\$85.00	https://www.vwrsp.com
Proteose peptone Nº 3	PROTEOSE PEPTONE #3, 500g	1	\$182.50	\$182.50	http://www.fishersci.com
MgSO4 .7H2O	Magnesium Sulfate Heptahydrate, >=99%, 500g	1	\$43.28	\$43.28	http://www.fishersci.com or buy locally
Agar	Fisher BioReagents* Granulated Agar, 500g	2	\$139.99	\$279.98	http://www.fishersci.com or buy locally
Yeast extract	BioReagents Yeast Extract (Granulated), 500g	1	\$81.56	\$81.56	http://www.fishersci.com or buy locally
Bactopeptone	Bacto Peptone (Powder), 100g	1	\$24.84	\$24.84	http://www.bio-world.com
Total:				\$3,541.10	

GLASSWARE AND CONSUMABLES

Item	Specification	Quantity	Estimated Item Cost	Estimated Total Cost	Possible Vendor
Microscope slides	Single-end frosted, manufactured of soda-lime glass in accordance with ISO 8037/1 standards, Case of 20 packs of 72	1	\$383.85	\$383.85	www.vwrsp.com
Cover slips	Unbreakable Cover Slips, such as FisherBrand Cat. # 12-547, Case of 1000	1	\$76.37	\$76.37	http://www.fishersci.com
multiwell microscope slides	10 windows of at least 6 mm diameter, such as Thermo Scientific* Shandon* Multi-Spot Slides with 6 mm wells, Case of 100	1	\$88.13	\$88.13	http://www.fishersci.com
Immersion Oil	518 F; 20mL oiler	3	\$46.48	\$139.44	http://www.fishersci.com
Petri dishes	90 mm OD Petri Dishes with Clear Lids, 25per sleeve, Case of 500	1	\$195.16	\$195.16	Order from European supplier
96-Well Microplates	Standard microplates for ELISA and other protein assay methods, Pack of 100	1	\$331.70	\$331.70	http://www.fishersci.com
8-Well Strip Microplate	Perform partial-plate assays without the risk of contaminating unused wells, Includes: One Strip Well Ejector per package, Pack of 100	1	\$551.28	\$551.28	http://www.fishersci.com
Reagent Reservoirs	Reservoirs facilitate repeated multi-channel pipetting for reagent delivery to microplates. 50 ml, Pack of 200	1	\$119.69	\$119.69	http://www.fishersci.com
Microcentrifuge tubes	Microcentrifuge tubes, 2 ml with snap tops. Pack of 500	2	\$64.52	\$129.04	www.vwrsp.com
500 m Erlenmeyer	500 ml Reusable Glass Wide-Mouth Erlenmeyer Flasks, ASTM E 1404, Type I Pack of 6	1	\$48.83	\$48.83	http://www.fishersci.com
250 ml Erlenmeyer	250 ml Reusable Glass Wide-Mouth Erlenmeyer Flasks, ASTM E 1404, Type I, Pack of 12	1	\$77.53	\$77.53	http://www.fishersci.com
125 ml Erlenmeyer	125 ml Reusable Glass Wide-Mouth Erlenmeyer Flasks, ASTM E 1404, Type I, Pack of 12	1	\$72.87	\$72.87	http://www.fishersci.com

Covered Lead Flask Rings	Stabilize Erlenmeyer flasks immersed in water baths, for 125 to 500 ml flasks	3	\$21.29	\$63.87	http://www.fishersci.com
125 ml Shaker Flask	125 ml shaker flask, Plain bottom; Vented PP closure with 0.22µm pore PTFE; Autoclavable; Capacity: 125mL, Case of 24	1	\$137.15	\$137.15	http://www.fishersci.com
250 ml Shaker Flask	250 ml shaker flask, Plain bottom; Vented PP closure with 0.22µm pore PTFE; Autoclavable; Capacity: 125mL, Case of 12	1	\$77.90	\$77.90	http://www.fishersci.com
500 ml Graduated Cylinders	Serialized Class A Cylinders, 500 ml, case of 4	1	\$461.70	\$461.70	http://www.fishersci.com
100 ml Graduated Cylinders	Serialized Class A Cylinders, 100 ml, case of 6	1	\$520.66	\$520.66	http://www.fishersci.com
25 ml Graduated Cylinders	25 ml Serialized Class A Cylinders, case of 6	1	\$513.52	\$513.52	http://www.fishersci.com
10 ml Graduated Cylinders	10 ml Serialized Class A Cylinders, case of 6	1	\$451.40	\$451.40	http://www.fishersci.com
50 ml Conical tubes	BD Falcon* 50mL Conical Tube with Flip-Top Cap, Case of 440	1	\$291.40	\$291.40	http://www.fishersci.com
15 ml Conical tubes	BD Falcon* 15mL Conical Centrifuge Tubes, Polypropylene; Packaging: 50/rack; comes with one rack, Case of 500	1	\$221.49	\$221.49	http://www.fishersci.com
25 ml Volumetric Pipettes	Reusable Mohr Pipets, Class A, Calibrated to deliver, 25 ml capacity in 1/10 ml, case of 6	1	\$364.47	\$364.47	http://www.fishersci.com
10 ml Volumetric Pipettes	Reusable Mohr Pipets, Class A, Calibrated to deliver, 10 ml capacity in 1/10 ml, case of 6	1	\$198.42	\$198.42	http://www.fishersci.com
2 ml Volumetric Pipettes	Reusable Mohr Pipets, Class A, Calibrated to deliver, 2 ml capacity in 1/10 ml, case of 6	1	\$155.46	\$155.46	http://www.fishersci.com
250 ml Beaker	Reusable Glass Beakers, 250 ml, graduated 25 to 200mL in 25mL increments; Designed from ASTM Specification E 960 Type I , pack of 12	1	\$52.91	\$52.91	http://www.fishersci.com

Stainless steel manifolds with 3 filter funnels	Stainless steel AISI 304 manifolds with 3 filter funnels. The vacuum in each funnel can be controlled using the valve on the lower part of the manifold. The stainless steel frit ensures a homogeneous distribution of the bacteria or retained particles on the membrane filter surface. Funnels and frits can be disinfected by flaming, autoclaving (max. 134 °C), or dry heat (max. 180°C) . Flow rate per filter station for water at 90 % vacuum 200 ml/min with 0.2 um membrane filter 600 ml/min with 0.2 um membrane filter Filtration area 12.5 cm ² Suitable membrane filter diameter 50 mm - 47 mm	1	\$3372.00	\$3372.00	http://www.whatman.com or http://www.albet-hahnemuehle.com/020402_e.htm
Filter	47 mm, 300 mL capacity, with lid Materials of Construction Funnel Body, Stem, Lid, Support Screen: Polyphenylsulfone Vent Plugs: Polypropylene	3	\$243.73	\$731.19	http://labfilters.pall.com/
4L filtering (suction) flask	Flask, Filter; Heavy Wall; Reusable; Side tubulation; Capacity: 4000mL	3	\$135.21	\$405.63	http://www.fishersci.com
PTFE membrane filter	Laminated or un-laminated diameter must match buchner funnel, Pore Size 0.45 Micron Diameter (mm) 25 Pack Size 100	3	\$244.00	\$732.00	Steritech http://www.steritech.com
PTFE membrane filter	Laminated or un-laminated diameter must match buchner funnel, Pore Size 0.45 Micron Diameter (mm) 47 Pack Size 100	3	\$244.00	\$732.00	Steritech http://www.steritech.com

Membrane filters	<p>Steritech Teflon (PTFE) membrane filters contain a membrane made of pure PTFE laminated onto a polypropylene non-woven layer. This combination not only enhances the PTFE laminated membrane filter's durability, it also improves the product's dimensional stability. Compatible with strong acids and aggressive solutions, Teflon® (PTFE) membrane filters can be used in venting applications, phase separations and even in aerosol sampling.</p> <p>Pack Size 100 Pore Size 0.2 Micron Diameter (mm) 25 Steritech PTFE0225100</p>	3	\$244.00	\$732.00	<p>Steritech http://www.steritech.com</p>
Dosing syringes	<p>500 microliter, Related Categories 700 Series, RN (Removable Needle), Hamilton Microliter Syringes, 700 Series, Standard syringe, 5-500 µL material stainless steel needle (point style 2) needle size 22 ga (bevel tip) description 750RN feature needle type RN (removable needle) point style 2 packaging pkg of 1 ea mfr. no. Hamilton, 80830 needle L 51 mm (2 in.) volume 500 µL For example: Aldrich Sigma 24539</p>	10	\$73.70	\$737.00	www.sigmaaldrich.com

Dosing syringes	1-5 ml Related Categories CTC Leap LC, CTC HTS, HTC and LC PAL, HPLC Autosampler Syringes, Syringes material stainless steel blunt tip (point style 3) size 22 ga (blunt tip) description 1005LTN gastight packaging pkg of 1 ea mfr. no. Hamilton, 203085 needle L 51 mm (2 in.) volume 5 mL For example: Aldrich Sigma 28639-U	10	\$91.90	\$919.00	www.sigmaaldrich.com
Filtering Flasks	1 L, meets ASTM Specification E1406, Type II, Class I requirements, Pack of 6	1	\$387.03	\$387.03	www.vwrsp.com
PPE: Lab coats	Maximum Protection Lab Coats, Superior Fluid and Particulate Barrier, Lowest Level of Particle Shedding, Light Chemical Splash Resistance, Breathable, Cloth-Like Fabric with Maximum Tear Strength. Case of 25. Please order an assortment of sizes from M to XL	2	\$175.13	\$350.26	www.vwrsp.com or purchase locally
PPE: Safety goggles	Goggles provide maximum protection from exposure to ultraviolet wavelengths and reduce blue haze interference. They feature replaceable lenses. Lightweight design and flexible rubber trim provide a comfortable fit, even over prescription glasses. Air vents allow air flow while blocking ultraviolet light. Meet NIOSH, OSHA, and ANSI specifications. CE approved.	14	\$22.00	\$308.00	www.vwrsp.com
PPE: Safety glasses	Protective Eyewear, MCR Safety, Strong, lightweight, scratch-resistant polycarbonate lenses have an 11° base curve and filter out 99.9% of UV radiation. Eyewear meets or exceeds ANSI Z87.1 standards. Packages of 12. Clear, Anti-fog.	7	\$60.93	\$426.51	www.vwrsp.com

PPE: Thermal gloves	Thermal Gloves, Universal size. With wool lining for cold resistance. Protects via thick lining for keeping in heat. High temperature resistance. Per Pair.	5	\$86.52	\$432.60	www.vwrsp.com
PPE: Disposable gloves	MICROGRIP® PURPLE NITRILE® Poly-Coated Powder-Free Gloves, Latex-free, Packaged 100 gloves/dispenser box, Case of 10, Please order an assortment of sizes from S to XL.	7	\$301.54	\$2,110.78	www.vwrsp.com
PPE: Neoprene gloves	18mil thick butyl inner layer and a 6mil thick neoprene outer layer. Curved hand design. Please order an assortment of sizes from S to XL	14	\$92.05	\$1,288.70	www.vwrsp.com
Total:				\$19,388.94	

Grand Total (Catalog Prices)

\$879,539